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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/691,451 | 10/20/2003 | Takayuki Miyao | 81716.0111 | 1603 |
| 26021 | 7590 | 05/03/2007 | | |
| HOGAN & HARTSON L.L.P. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067 | | | EXAMINER LEE, CYNTHIA K | |
| | | | ART UNIT 1745 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/691,451 | | MIYAO ET AL. | |
| | Examiner | | Art Unit | |
| | Cynthia Lee | | 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 8-19 and 21-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/20/03, 4/20/05</u> | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

Applicant's election of species 5, figure 6, claims 1, 2, 3, 7, and 20 in the reply filed on 2/12/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The Examiner agrees with the Applicant with the generic claims pointed out in the Response.

Priority

Acknowledgement has been made of applicant's claim for priority under 35 USC 119 (a-d). The certified copy has been filed on 10/20/2003.

Information Disclosure Statement

The Information Disclosure Statement (IDS) filed 10/20/2003 and 4/20/2005 has been placed in the application file and the information referred to therein has been considered.

Drawings

The drawings received 10/20/2003 are acceptable for examination purposes.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/877970. Claim 1 of the instant application is anticipated by copending application claim 1 in that claim 1 of the copending application contains all the limitations of claim of the instant application. Claim 1 of the instant application therefore is not patently distinct from the copending claim and as such is unpatentable for obvious-type double patenting.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 7, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "which are formed on one principal surface and another principal surface thereof" in claim 1 is unclear whether the

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principal surfaces are referring to "one surface" on the base body, the membrane electrode assembly, an electrolyte, a first electrode, or a second electrode. Clarification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka (US 2003/0012999) in view of Nishioka (US 5543241).

Yoshioka discloses a fuel cell casing comprising: a base body having a concavity for housing a membrane electrode assembly formed on one surface thereof (15 in Fig. 1), the membrane electrode assembly having a first electrode and a second electrode disposed on one principal surface and another principal surface thereof, respectively; a first fluid channel formed so as to extend from a bottom surface of the concavity facing the one principal surface of the membrane electrode assembly to an outer surface of the base body (41 in Fig. 1); a first wiring conductor having its one end disposed on the bottom surface of the concavity facing the first electrode of the membrane electrode assembly (17 in Fig. 1), and its other end led out toward the outer surface of the base body; a lid body mounted on the one surface of the base body near the concavity so as to cover the concavity (14 in fig. 1), for air-tightly sealing the concavity;

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a second fluid channel formed so as to extend from one surface of the lid body facing the other principal surface of the membrane electrode assembly to an outer surface of the lid body; and a second wiring conductor having its one end disposed on the one surface of the lid body facing the second electrode of the membrane electrode assembly, and its other end led out toward the outer surface of the lid body (16 in fig. 1). The first and second wiring conductors are formed around the opening of the fluid channels disposed on the bottom surface of the concavity (applicant's claim 2). See Fig. 1 and [0081].

Regarding claim 7, the current collector 17 is surface treated by gold plating. It is noted that gold is a corrosion resistant metal, as supported by the PG PUB of the instant specification par. [0366].

Yoshioka does not disclose that the base body is made of ceramics. Yoshioka discloses that the base body is made of metal, resin, or composites [0087]. However, Nishioka teaches a fuel cell casing made of ceramics (6:28-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Yoshioka's base body made of metal, resin, or composites with Nishioka's ceramic casing because it has been held by the court that the selection of a known material based on its suitability for its intended use is *prima facie* obvious. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka (US 2003/0012999) in view of Nishioka (US 5543241) as applied to claim 1 above, and further in view of Hayashi (US 2002/0146610)

Yoshioka modified by Nishioka teaches all the elements of claim 1 and are incorporated herein. Yoshioka modified by Nishioka does not disclose a heating element.

However, Hayashi teaches A fuel cell which can self-heat in a short time, in which no reaction gas is necessary for combustion, thereby improving the starting performance at low temperatures. See Abstract. Hayashi teaches a cell that has a generation plane for outputting power, and a heating device (e.g., an electric heater 33 or 53, a catalyst 65, or an oxidizing and reducing agent 72 in the embodiment explained below) for locally heating the generation plane is provided at a part of the generation plane.

According to this structure, when the fuel cell is started at low temperatures, a part of the generation plane can be quickly heated. Therefore, the resistance of the ions which pass through this portion of the solid polymer electrolyte membrane can be reduced and the efficiency of power generation can be improved. Accordingly, self heating can be improved in the portion and the temperature of the portion can be quickly increased. This high-temperature portion then expands over the entire generation plane [0029].

Typically, the heating device is an electric heater. In this case, the heating device can be driven by electrical energy [0030].

The area of the electric heater 33 is provided over the area where the reaction gas passages C1 and A1 overlap with each other. However, the electric heater 33 may be provided for only a portion of the above overlap area, for example, a central portion. See Fig. 5 and [0252]. The position of each electric heater 33 is also not limited to be in the cooling liquid passage R, and the electric heater 33 may be embedded in each separator (6 or 7) [0253].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a heating element to the fuel cell modified by Nishioka, as taught by Hayashi, for the benefit of heating the fuel cell in a short time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ckl

Cynthia Lee

Patent Examiner

A handwritten signature in black ink, appearing to read "Susy Tsang-Foster", written in a cursive style.

SUSY TSANG-FOSTER
PRIMARY EXAMINER